



Appl. No. :  known
 Filed :  herewith

which has an external jacket surface of an axially conical extent, is provided with external threads, complementarily matched by the internal threads of the outer adapter and connector sleeve, which are formed in the bore-defining inner circumferential surface, which has a conical extent in the axial direction, its conicity complementarily corresponding to the externally conical extent of the inner adapter sleeve.

IN THE SPECIFICATION:

Page 1, immediately after the title, please insert:

Related Applications

This is the U.S. National phase under 35 U.S.C. § 371 of International Application PCT/NO00/00214, filed June 22, 2000, and claims the benefit of the Norwegian application 19993437 filed July 12, 1999.

Background of the Invention

Field of the Invention



Page 1, Immediately after Line 15, please insert:

Description of the Related Art

Please amend the paragraph on Page 2, beginning on line 1, as follows:

Existing connectors of this kind normally comprise an adapter sleeve with an externally conical smooth surface. Such an adapter sleeve with a smooth surface will cause a great expansive force on an external adapter and connector sleeve surrounding the adapter sleeve, when the connector is subjected to tensile load. This disadvantageous condition is normally compensated for by increasing the external diameter of the connector, which is also unfortunate and disadvantageous.

Please amend the paragraph on page 2, beginning on line 13, as follows:

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As Existing connectors are generally locked by set screws meant to have the task of absorbing torques. This is a particularly unfortunate construction as such screws are generally unsuitable for such a task, and may, at worst, come loose through vibrations, and may fall out, after which the loose set screws may cause damage to the well and downhole equipment.



Please amend the paragraph on page 2, beginning on line 20, as follows:

Ac Therefore, there is a need for a connector and method of connection to remedy or reduce, to a substantial degree, by simple means the drawbacks, disadvantages and limitations of use of conventional connectors of this kind and of other known connectors of similar types, and thus provide a connector for the purposes in question, in which the external diameter is kept as small as possible, and which exhibits, with dimensions corresponding to those of known connectors, a higher tensile and compressive strength and greater resistance towards external torques applied thereto.

Please amend the paragraph on page 2, beginning on line 30 as follows:

Summary

A7 The aforementioned needs are satisfied by a connector for connecting the end portion of a pipe, a pipeline, a pipe string or coiled tubing. The connector is formed or provided with at least one connecting device for equipment/tools, and comprises parts that can be screwed together and have aligned bores for the accommodation of said pipe end portion which is secured in the connector in the screwed-together condition of the parts. The connector further comprises a radially inner transversally shrinkable adapter sleeve which is to bear in the connected position at its inner circumferential surface in a clamping manner against the outer jacket surface of the pipe end portion. The inner adapter sleeve has an external conically extending threaded jacket surface that is formed in a view of cooperating with a surrounding outer adapter and connector sleeve with an internal conically extending threaded circumferential surface. The outer adapter and connector sleeve is formed to cooperate with a threaded jacket portion of a socket-like connecting element formed on an end piece having the said connecting device.

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Please amend the paragraph on page 3, beginning on line 9, as follows:

A₇ ✓
The adapter sleeve is split and can be shrunk around the coiled tubing by the outer adapter and connector sleeve formed with a conical threaded inner surface complementarily corresponding to the conicity of the adapter sleeve. The sleeve wall of the outer adapter and connector sleeve is tapered gradually in the direction of the end piece incorporated in the connector, and can be screwed to the socket-like connecting element of the said end piece, said connecting element having an externally conical sleeve wall tapering towards its free end, complementarily corresponding to the conicity of the outer sleeve, with external threads.

Please amend the paragraph beginning on page 3, line 20, as follows:

A₈ ✓
The socket-like connecting element of the end piece normally has a smooth cylindrical bore of a diameter selected to slide over the outer diameter of the coiled tubing.

Please amend the paragraph beginning on page 3, line 23, as follows:

A₁₀ ✓
The diameter of the internally threaded bore of the outer adapter and connector sleeve exceeds the diameter of the coiled tubing, other than at the end portion positioned at maximal distance from said end piece, wherein the outer adapter and connector sleeve is formed with an annular inward flange of a comparatively large axial extent and of a diameter selected to fit the outer diameter of the coiled tubing.

Please amend the paragraph beginning on page 4, line 19, as follows:

A₁₁ ✓
The externally conical adapter sleeve with external left-hand threads, incorporated in the connector according to the invention, will be capable of adopting torques, and the torque applied will tighten the inner adapter sleeve even more firmly to the external wall surface of the coiled tubing.

Please amend the paragraph beginning on page 5, line 22, as follows:

Then the outer adapter and connector sleeve is screwed, by its internally conical threaded portion, along the externally conical threaded surface of the internal adapter sleeve, complementarily corresponding the conicity of the outer sleeve, and - as the inner diameter of the threads of the outer sleeve decreases - the inner shrinkable sleeve is compressed transversally thereby transferring compressive forces from the outer sleeve to the coiled tubing, which is thereby secured. When an optimal degree of securing has been achieved, the outer sleeve has, from its free end, a free (not in threaded engagement with the inner adapter sleeve) internally conical threaded end portion, which - on adjustment, according to experience, of the position of the inner adapter sleeve relative to the end of the coiled tubing in the position of use - shall have a larger axial longitudinal extent than the depth of entering (depth of screwing) of the socket-like connecting element of the end piece, extending over said depth of entering, conically narrowing towards its free end.

Please amend the paragraph beginning on page 6, line 19, as follows:



These and other objects and advantages of the invention will become more fully apparent from the following description of a non-limiting embodiment taken in conjunction with the accompanying drawings.

Brief Description of the Drawings

Please amend the paragraph beginning on page 7, line 4, as follows:

Detailed Description of the Preferred Embodiment

Reference will now be made to the drawings wherein like numerals refer to like parts throughout. Fig. 1 illustrates a connector for the connection of the end portion of a pipe, a pipeline, a pipe string or coiled tubing 10 comprises (besides the seals 12 and 14 in the form of

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A.14
 (und)

O-rings positioned in internal circumferential grooves in the connector parts 16 and 18, which can be screwed together) three parts 16, 18 and 20 that can be screwed together.

Please amend the paragraph beginning on page 7, line 17, as follows:

A.15

The end piece 16 has a first, internal annular shoulder surface 26, which forms an abutment surface for the end surface of the coiled tubing 10. In an axial distance from this internal, annular abutment surface 26 the externally conical threaded socket-like connecting element 24 is defined by an, axially seen, annular shoulder surface 28 determining the depth of entering/screwing of the connecting element 24 into an outer adapter and connector sleeve 18 forming the second part of the connector.

Please amend the paragraph beginning on page 9, line 18, as follows:

A.16

To form a connection using the connector described above, the outer adapter and connector sleeve 18 is first passed over the coiled tubing 10 from the free end thereof, until this outer sleeve 18 adopts a position along the coiled tubing 10, in which its left-hand end of a minimal sleeve wall thickness is positioned at an axial distance from the outer free end of the connecting socket 24, said distance exceeding the axial length of the inner adapter sleeve 20.

Please amend the paragraph beginning on page 9, line 25, as follows:

A.17

Then the inner split, radially shrinkable adapter sleeve 20 is pushed and is brought to an initial position with its left-hand end of a maximum inner adapter sleeve thickness at a suitable position (experience will reveal how much this inner adapter sleeve can be expected to be moved axially by the displacing movement of the outer adapter sleeve towards the left during the engagement and displacement of its conical internal threads with/along the cooperating conical external threads of the inner adapter sleeve 20), whereas the constantly decreasing diameter of the bore of the outer sleeve effects a radial compression, transversal "shrinkage", of the inner adapter sleeve, whose compressive forces ensure the securing of the surrounding annular portion of coiled tubing.